

Application. No.: 10/643,161  
Filing Date: August 18, 2003  
Response dated: August 15, 2006  
Reply to Office Communication of March 23, 2006

### **REMARKS**

Claims 1-23 were pending in this application. Claims 1-19 and 21-23 have been have been rejected. Claims 1, 3, 5, 6, 8, 9, 15, 16, and 23 have been amended. Claim 24 has been added. Claims 13 and 14 have been canceled. Therefore, Claims 1-12 and 15-24 are pending in the Application. Reconsideration of the application based arguments submitted below is respectfully requested.

#### **Claim Rejections under 35 USC § 112**

Claims 16-20 were rejected under 35 USC § 112, second paragraph. The Examiner correctly pointed out the insufficient antecedent basis in Claim 16. Application has corrected the clerical error in Claim 16 and Claims 17-20 depend there from. No new matter was added. As such, Applicant respectfully request the rejection of the claims under § 112 be reconsidered and withdrawn.

#### **Claim Rejections under 35 U.S.C. § 102**

Claims 1-6, 9-15, 21 and 22 have been rejected under 35 U.S.C. §102(b) as being anticipated by Lapota (5,625,262). This rejection is respectfully traversed and reconsideration and withdrawal thereof is requested.

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Applicant would like to respectfully point out that, “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” MPEP §2131 citing Verdegaal Bros. V. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the . . . claim.” Id citing Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Also, “[t]he elements must be arranged as required by the claim...” Id citing In re Bond, 910 F.2d 831 (Fed. Cir. 1990).

In regard to Claim 1, amended Claim 1 teaches features not shown in the prior art. Namely Claim 1 teaches, among other features, a single motor, a variable frequency drive, a processing unit wherein the processing unit converts the output vector to an amount of voltage, an amount of current, and a frequency and maintains the frequency level transferred from the variable frequency drive to the single motor substantially equal to the frequency in the single motor to maintain the velocity vector of the overhead crane. The cited prior art does not disclose these features. Lapota does not use a single motor to maintain the velocity vector of an overhead crane. Lapota controls the angular position of two motors to share a torque load on a hoist.

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In regard to Claim 9, amended Claim 9 teaches features not shown in the prior art. Namely Claim 9 teaches, among other features, a method controlling the direction of movement and the velocity of an overhead bridge crane by monitoring a motor to determine the direction of movement and velocity of the crane, converting the rotational direction and speed of the motor to an amount of voltage, an amount of current, and a frequency, and substantially corresponding a frequency level sent to the motor to the frequency in motor to maintain the direction and velocity of the overhead bridge crane. As stated previously, Lapota does not maintain the velocity vector of an overhead crane. Instead, Lapota controls the angular position of two motors to share a torque load on a hoist.

Claims 2-6 and 10-12 and are dependent back to patentability distinct Claims 1 and 9, respectfully, and include features not disclosed in the prior art. As such, Claims 2-6 and 10-12 are patentable.

In regard to Claim 21, Claim 21 teaches features not shown in the prior art. Claim 21 teaches, a control system for a crane, the control system comprising a motor drive including software responsive to a master switch control signal and the output vector signal and adapted to control the operating voltage and operating current, wherein the software is adapted to provide a speed match by adjusting the operating frequency and operating voltage to match the output vector signal before

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the master switch control signal changes. Lapota does not provide a speed match within the same motor before the master switch control signal changes.

In regard to Claim 22, Claim 22 teaches features not shown in the prior art. Claim 22 teaches, a method of substantially eliminating open circuit voltage decay of a motor of an overhead bridge crane by determining the present voltage and the present frequency in the motor and transferring a voltage level at a frequency level substantially equal to the present voltage and the present frequency in the motor to keep the motor magnetized and to substantially eliminate the open circuit voltage decay of the motor. Lapota does not transfer voltage and frequency levels within the same motor to substantially eliminate the open circuit voltage decay of the motor. Lapota teaches coordination of two individual motors and not the monitoring and control of one motor to substantially eliminate the open circuit voltage decay of that motor.

#### Claim Rejections under 35 U.S.C. § 103

Claims 7, 8, and 16-19 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Lapota in view of Backstrand (5,319,292). Claim 23 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Backstrand

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(5,319,292). These rejections are respectfully traversed and reconsideration and withdrawal thereof are requested.

Additionally, "[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." MPEP §2143.03 (*citing In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)). "All words in a claim must be considered in judging the patentability of that claim against the prior art." MPEP §2143.03 (*citing In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)).

In regard to Claim 8, amended Claim 8 teaches features not shown in the prior art. Namely, Claim 8 teaches, among other features, a system for controlling the direction and velocity of an overhead bridge crane comprising one motor, a variable frequency drive, a control switch, a hydraulic brake, and a processing unit, wherein the processing unit converts the motor's output vector to an amount of voltage, an amount of current, a traverse direction, and frequency and maintains the frequency level transferred from the variable frequency drive to the motor substantially equal to the frequency in the motor to maintain the velocity vector of the overhead bridge crane. The cited prior art does not disclose these features. Neither Lapota nor Backstrand use a single motor to maintain the velocity vector of an overhead bridge crane. Lapota controls the angular position of two motors to

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share a torque load on a hoist. Backstrand is specifically directed at the application of brakes in an overhead crane.

In regard to Claim 16, Claim 16 teaches an overhead crane comprising, among other features, a master switch, an electric motor, and a variable frequency motor drive including a processing unit responsive to the master switch control signal and the motor output vector signal to control the motor operating voltage and current and further responsive to the master switch control signal to provide a speed match before adjusting the motor operating voltage and current to match the motor output vector when the master switch is moved from the neutral position to either of the forward or reverse positions. Neither Lapota nor Backstrand provide a speed match within the same motor before adjusting the motor operating voltage and current to match the motor output vector in response to the master switch control signal.

Claims 7 and 17-19 are dependent back to patentability distinct Claims 1 and 16, respectfully, and include features not disclosed in the prior art. As such, Claims 7 and 17-19 are patentable.

Applicant has commented on some of the distinctions between the cited references and the claims to facilitate a better understanding of the present

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invention. This discussion is not exhaustive of the facets of the invention, and Applicant hereby reserves the right to present additional distinctions as appropriate. Furthermore, while these remarks may employ shortened, more specific, or variant descriptions of some of the claim language, Applicant respectfully notes that these remarks are not to be used to create implied limitations in the claims and only the actual wording of the claims should be considered against these references.

The Commissioner is authorized to charge any deficiency or credit any overpayment associated with the filing of this Amendment and Response to Deposit Account 23-0035.

Respectfully submitted,

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CERTIFICATE OF TRANSMISSION

I hereby certify that this Response and Amendment for Application No. 10/643,161 and filed August 18, 2003 is being transmitted electronically to:

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Commissioner for Patents

Art Unit 2837  
Examiner Colon Santana, Eduardo  
on August 15, 2006.

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